

Mountain area, but in the Great Basin the dry autumn was unfavorable for feed, and precipitation was generally needed. Livestock continued in satisfactory condition throughout the month, except for some suffering from cold locally.

Winter truck progressed well until the last decade when there was some injury by frost, especially in Florida;

some frost damage was reported in California. There was some injury by frost to cane buds and eyes in Louisiana during the last decade, but seed cane was mostly saved, while excellent harvest weather prevailed generally. Citrus were beginning to need rain at the close of the month in Florida; elsewhere conditions were satisfactory generally.

WEATHER OF THE ATLANTIC AND PACIFIC OCEANS

NORTH ATLANTIC OCEAN

By F. A. YOUNG

November was another stormy month over the North Atlantic, and the number of days with gales was equal to or above the normal over the greater part of the steamer lanes and also over the region west of the sixtieth meridian, north of the Bermudas.

The outstanding feature of the weather of the month was the series of exceptionally severe storms that ravaged the coast of Europe, and was, according to press reports, responsible for large loss of life and great damage to property.

Due to the great interest shown in the flight of the German airship *Graf Zeppelin*, Charts VIII to XI were drawn to cover the period from October 29 to November 1, the ship leaving the United States on the former date on her return trip to Germany. The weather conditions during the voyage from Germany were shown on the October Charts VIII to XII, covering the 11th to 15th.

The number of days with fog was somewhat below normal over the Grand Banks and off the European coast and about normal off the American coast and over the eastern section of the steamer lanes.

TABLE 1.—Averages, departures, and extremes of atmospheric pressure at sea level, 8 a. m. (seventy-fifth meridian), North Atlantic Ocean, November, 1928

Stations	Average pressure	Departure ¹	Highest	Date	Lowest	Date
	Inches	Inch	Inches		Inches	
Julienhaab, Greenland.....	29.51	(?)	29.92	26th.....	28.18	21st.
Belle Isle, Newfoundland.....	29.64	-0.24	30.18	12th ³	28.26	8th.
Halifax, Nova Scotia.....	29.91	-0.09	30.34	2d.....	29.36	7th. ³
Nantucket.....	29.99	-0.10	30.40	1st.....	29.62	23d.
Hatteras.....	30.13	+0.01	30.56	15th.....	29.72	8th.
Key West.....	30.08	+0.05	30.28	23d.....	29.84	4th.
New Orleans.....	30.20	+0.09	30.52	26th.....	29.90	7th.
Cape Gracias, Nicaragua.....	29.89	-0.01	29.96	23d ³	29.82	4th.
Turks Island.....	30.04	+0.03	30.16	28th.....	29.88	17th.
Bermuda.....	30.20	+0.12	30.54	15th.....	29.88	11th.
Horta, Azores.....	30.24	+0.14	30.64	24th.....	29.72	18th.
Lerwick, Shetland Islands.....	29.52	-0.18	30.26	1st.....	28.57	16th.
Valencia, Ireland.....	29.79	-0.10	30.52	30th.....	28.96	16th.
London.....	29.78	-0.16	30.33	29th.....	28.93	16th.

¹ From normals shown on Hydrographic Office Pilot Chart, based on observations at Greenwich mean noon, or at 7 a. m., seventy-fifth meridian time.

² No normal available.

³ And on other dates.

During the first five days of the month favorable weather prevailed generally, with the exception of a moderate gale on the 5th, central off the south coast of Newfoundland, and on the same day northerly winds of force 9 were reported from near 55° N., 25° W.

From the 6th to 11th moderate to strong gales prevailed over the greater part of the steamer lanes, and on the 11th there was also a low in the vicinity of Hatteras which was accompanied by winds of hurricane force. On the 12th the center of the low was near Halifax, while southwest gales also occurred off the west coast of Ireland.

From the 13th to 15th the middle and eastern sections of the steamer lanes were again swept by westerly to southwesterly gales. On the 15th a norther of force 7 to 8 was reported near Turks Island.

From the 15th to 17th a disturbance was off the coast of Europe; it reached its greatest extent and intensity on the 16th, when westerly winds of hurricane force prevailed over a region extending as far west as the twenty-fifth meridian.

On the 19th two areas of low pressure over the middle and northeastern sections of the ocean were responsible for heavy weather over a large area. By the 20th the storm area had contracted somewhat and extended from the Azores to the English Channel. On the same date there was a moderate disturbance in the vicinity of Newfoundland.

From the 21st to 26th Europe was visited by the last and most protracted storm of the month. Reports from vessels and land stations indicated westerly winds of force 8 to 12 over a comparatively large area during the greater part of this period.

On the 26th Belle Isle reported wind NNW., force 9, with snow, while on that date and on the 27th moderate gales were encountered in the region between the Bermudas and Newfoundland. On the 27th land stations and vessels in the vicinity of the south coast of England reported southwesterly winds of force 7 to 8.

On the 28th a fairly well developed disturbance of limited extent was central near 40° N., 45° W.; this moved slowly north-northeastward, and on the 29th the center was near 47° N., 40° W., and, as shown in table of gale reports, winds of hurricane force were encountered near the center.